

AMENDMENTS TO THE DRAWINGS:

The accompanying Replacement drawing sheets include replace the original informal drawing sheets of Figs. 1 to 6. The Replacement Sheets for Figures 1 to 6 are believed to conform the drawings to the drawings standards. Approval and entry are respectfully requested, as is withdrawal of the objections as to the drawings.

Attachments: Replacement drawing sheets.

REMARKS

Claims 8 to 14 and 16 to 22 are currently pending and being considered (since claim 15 was previously withdrawn in response to a restriction requirement).

Reconsideration of the application is respectfully requested based in the following.

Claim 21 has been revised to correct a minor grammatical error, and reflects no substantive change. Approval and entry are respectfully requested.

With respect to the objections the drawings, the accompanying Replacement drawing sheets replace the original informal drawing sheets of Figs. 1 to 6. The Replacement Sheets for Figures 1 to 6 are believed to conform the drawings to the drawings standards. Approval and entry are respectfully requested, as is withdrawal of the objections as to the drawings.

Claims 20, 21, and 22 were rejected under 35 U.S.C. § 112, first paragraph, as to the written description requirement.

As to claim 20 and the claim feature of “a completely sealed housing”, it is respectfully submitted that this feature is fully supported, for example, at page 3, lines 12 to 18, of the present application. This portion of the specification clearly describes a sealed housing formed by the region 21 of the stepped head wire, the press-fit base 11, and a sleeve 22. Further, this housing is clearly depicted in Figs. 1 and 2 of the present application.

As to claim 21, the claim features of “no more than about 0.323 grams” and “no more than about 0.242 grams” are fully supported, for example, at page 4, lines 15 to 19 of the present application.

As to claim 22, it is fully supported for at least the reasons explained as to claims 20 and 21.

Withdrawal of the rejections is therefore respectfully requested.

Claims 8, 11, 12, 13, and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,160,309 (“Le”) in view of U.S. Patent Application Publication No. 2002/0011661 (“Terasaki et al.”).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This

teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 8 is to a diode, and includes a press-fit base including an axially extending mounting region to mount a semiconductor chip, a head wire provided with a head configured to be affixed to the semiconductor chip, and a stabilization arrangement which includes at least a sleeve and an encapsulating material filling cavities, in which the head wire includes a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, the cavities of the housing being filled with encapsulating material. In this respect, Figs. 1 and 2 display this region (21), and the Substitute Specification at page 3, lines 9 to 16, describes this feature. In this way, less epoxy may be used, and the fire risk may be reduced when the diode is overloaded, as explained in the Substitute Specification of the present application.

In contrast, the Le reference does not disclose nor even suggest the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, as provided for in the context of the presently claimed subject matter. The Office Action, admits, at page 4, paragraph 18, that the Le reference does not disclose a stepped head. It is also respectfully submitted that the Le reference also does not disclose the formation of a housing. In the response to arguments, the Office Action conclusorily asserts that the Le reference describes a housing, as defined by the wire connection 204 and 205 and press fit sleeve 202. Clearly, the Le reference does not disclose the forming of the housing of claim 8. The encapsulant 206 of figure 1 of the Le reference is left completely exposed and un-housed on the top 222.

Further, the protuberance 6c of the secondary Terasaki reference is not shown as and is not disclosed as providing this function of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing. Indeed, all of Figures 1, 2, and 9 through 14 of the Terasaki reference indicate that the insulating member 7 is not enclosed within a housing -- and is instead free to flow outside of the protuberance 6c, side wall 3a, and support electrode body 3.

Accordingly, neither Le nor Terasaki disclose, or even suggest, a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, as provided for in the context of the claimed subject matter.

Further, neither reference even concerns the use of a diode which is designed for stability in a motor vehicle. The applied references also do not provide the benefits of the presently claimed subject matter. The prior remarks by Applicants are directed to the lack of any motivation to combine the Le and Terasaki references. Because neither reference describes diodes designed for stability in a motor vehicle, and because neither reference provides the benefits of the presently claimed subject matter, one of ordinary skill in the related art would not have been motivated to combine the references so as to provide the presently claimed subject matter.

The Office Action conclusorily asserts that the motivation to combine may be found in paragraphs [0070]-[0071] of the Terasaki reference. The cited portion of the Terasaki reference, however, merely indicates that the encapsulant 206 may be prevented from falling out of the device through the use of the protuberance 6c and side wall 3a. This cited portion simply provides no motivation to combine the Le reference with any structure that would form a housing as provided for in claim 8.

Accordingly, the proposed combination of the Le and Terasaki references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, as provided for in the context of claim 8.

It is therefore respectfully submitted that claim 8 is allowable, as are its dependent claims 11 to 14.

Withdrawal of the rejections is therefore respectfully requested.

Claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Le reference in view of the Terasaki reference, further in view of U.S. Patent No. 6,274,823 ("Khandros et al.").

Claims 9 and 10 depend from independent claim 8, and are therefore allowable for essentially the same reasons as claim 8, as presented, since the third-level Khandros reference does not cure -- and is not asserted to cure -- the critical deficiencies of the Le and Terasaki references as to claim 8. That is, the proposed combination of the Le, Terasaki, and Khandros references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, as provided for in the context of claim 8, from which claims 9 and 10 depend.

Withdrawal of the rejection is therefore respectfully requested.

Claims 16 to 19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Le in view of Terasaki, further in view of Khandros et al.

Claim 16 includes features like those of claim 8, and it also includes the features of claims 9 and 11. As explained above, the proposed combination of the Le and Terasaki references does not disclose, or even suggest, all of the features of claim 16. Further, since the third-level Khandros reference does not cure -- and is not asserted to cure -- the critical deficiencies of the Le and Terasaki references as to claim 16, the proposed combination of the Le, Terasaki, and Khandros references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a housing, as provided for in the context of claim 16.

Accordingly, it is respectfully submitted that claim 16 is allowable for at least the same reasons as claim 8 (and claims 9 and 11), as are its dependent claims - claim 17 (features correspond to claim 10), claim 18 (features correspond to claims 12 and 13), and claim 19 (features correspond to claim 14).

Withdrawal of the rejections is therefore respectfully requested.

In sum, claims 8 to 14, and 16 to 22 are allowable.



CONCLUSION

Applicants respectfully submit that all pending and considered claims 8 to 14, and 16 to 22 of the present application are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

Dated: _____

2/6/2009

By: _____

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